

The Design Social: Framing Social Research Methods for Design Postgraduates

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ABSTRACT

This paper discusses approaches for framing social research methods within postgraduate design curricula, details the responses of postgraduate design students to the possibilities presented by social research methods, and concludes with a case study of the adoption experiences of PhD students in design when engaging with social research methods. Analysis of semi-structured interviews is employed to draw out perceptions and experiences of design postgraduates when engaging with social research methods. The relationship between design and social research methods is explored and the potential association to postgraduate design curricula considered. The research draws upon discourse within design (such as Krippendorff (1995), Durling (2002), and Poggenpohl (2009)) to enliven the debate surrounding the need for designers to engage in a meaningful way with research methods beyond the design domain while placing design at the centre of this debate.

I. CONTEXT AND CHALLENGES

Traditionally undergraduate design students enter postgraduate level studies with little formal training in (social) research methods. Undergraduate design curricula rarely includes formal training in research methods as it focuses upon the development of practical and conceptual design skills in preparation for entry to the design industry. Dorst (2006) maintains that ‘design schools base their curriculum upon the idea that design is something that that must be learned, not taught’. This approach employs studio teaching as a core learning vehicle where project based learning is prevalent. Dorst (2006) affirms that ‘most design curricula are based upon learning by doing’ where projects form the basis for much of the learning that takes place in contemporary design education institutions – both universities and art schools.

‘The learning-by-doing method has many advantages: it provides the student with a rich learning environment that mirrors the design problems they encounter in practice, and it encourages the development of a personal style.’ (Dorst, 2006: 86)

McCullagh (2001) adds that ‘the studio tradition of *sitting with Nellie* has many strengths’ but he recognizes that the

transferal of tacit knowledge by example is not appropriate for all aspects of design education. The vocational approach employed in undergraduate design education has received much attention (Schön, 1987; Waks, 2001; Swanson, 1994 for example) and continues to be the *modus operandi* in design contexts. Training at undergraduate level focuses upon the development of vocational skills that are required to undertake a role as a design practitioner. This approach is embedded in the craft traditions of art and design (Potter, 1969) and links with notions of the artisan designer. The separation of design and manufacture during the industrialization in the 20th century now leaves this approach somewhat in question (Ramduny-Ellis et al, 2010) although this still remains the predominant teaching approach for undergraduate design curricula.

Upon completion of undergraduate studies in design, graduates undertake a variety of roles across traditional design sectors including graphics, product, interior, and fashion as well as newer areas such as interaction design, computer games design, and latterly service design. Whatever areas that graduate designers operate in, visual acumen is a key component of their capabilities (Lawson, 2005).

As noted, undergraduate approaches to curricula emphasize learning-by-doing and assists students in the development of practical skills that can be applied in design practice. Raatz (2003) notes that ‘students develop practical skills in the studio by doing – a kinetic mode – in contrast to the learning of writing skills – a much more ‘static’ and linear mode’. Written skills are developed within undergraduate contexts but the level and extent of these skills varies greatly between both degree and institution (Edwards, 2005; Design Skills Advisory Panel, 2007 & 2008). Marks (quoted in Edwards, 2005) states that:

‘For many art and design students, writing is associated with prior weaknesses and failures and increasingly perceived as alien. Young people are writing and reading less and watching and talking more – reflecting not only the culture in which they have grown up (and their day-to-day experiences) but also relative educational priorities given to the teaching of writing during their previous and formative educational experiences.’ (Marks, 2005:03; quoted in Edwards, 2005)

Many students in art and design are capable of exploring ideas and debates, and producing works that reflect their

knowledge and research, but not necessarily within traditional writing structures (Wood, 1999). Changes in the way that the written word is consumed in contemporary culture continues to change. Newspapers are read online; digital e-books are becoming widespread; blogs and social media proliferate. All of these changes impact upon the role of the written word in design education (Edwards, 2005).

The demands of postgraduate research, particularly at PhD level, place a number of very different challenges upon design students to those faced during their undergraduate studies. The perceived need to become more 'academic' is something that can result in a desire to move away from creative techniques developed through the learning-by-doing mindset. In this context there is a need to develop new competencies, often alien in nature to design graduates, but this process can be assisted by drawing upon existing experience and understanding. Using existing understanding developed within undergraduate studies can act as a springboard for design postgraduate when developing research skills.

Specifically, this paper considers how to develop awareness of social research methods appropriate to design students, and how to promote an appreciation of what social research methods are available and associated merits of these methods.

II. SOCIAL RESEARCH?

Social research methods offer many possibilities to design as it enables a (semi)-structured approach to the scientific study of society (Bryman, 2004; Neuman, 2007) and the world it occupies. This is of particular interest to design as the scope of social research can be small or large – from an individual to a whole country. Design has begun to embrace social research methods in recent years and incorporate them into project based design activities. Social research methods have been employed to support the 'why' of design (Laurel, 2003) and underpin user-centred design positions. It is now commonplace for design research to employ social research methods (Kelly, 2004 & 2006; Brown, 2009; Patnaik, 2009; Waisberg, 2009; Best, 2006; Richardson, 2010) such as ethnography, participant observation, in-depth-interviews, focus groups, and user studies.

This use of social research methods in design, particularly in design practice, does not mean that designers always undertake this research. Design organizations now regularly employ social scientists including anthropologists, sociologists, and cognitive and behavioral psychologists who work alongside designers in this research endeavor – often specializing in the human factor of the design process (Waisberg, 2009). This research is often focused upon understanding people's behavior, needs, and dreams, making sense of it, and communicating it to those involved in the design process (Fulton-Suri, 2008). Designers also undertake social research but are not always versed in the theoretical underpinnings of the respective research methods. This type of 'quick-and-dirty' social research is becoming widespread in both design practice and design education. Waisberg (2009) contends that 'designers have been a notably

enthusiastic group of amateur researchers, incorporating human-centred design research into their bundle of tasks'.

Social research is used in design practice both by researchers and designers. The benefits of employing social research methods have been embraced by a number of progressive design organizations such as IDEO, Adaptive Path, Frog, Proctor & Gamble, and Humantific. Fulton-Suri (2003) claims that the evolution of user-research methods in design means that designers today have opportunities to design much more than simply static objects. Fulton-Suri (2008) maintains that 'research could help us reach a better understanding of people – their needs, desires, habits and perceptions – and that this would lead to better decisions about what and how things get designed and put into the world'. In this role, social research has become valued in, and by, design. There is less adoption by designers of social research methods beyond the traditional design practice boundaries, particularly in scholarly research domains.

III. EXPANDING THE HORIZONS OF DESIGN POSTGRADUATES: DEVELOPING RESEARCH COMPETENCIES

Although there is clear evidence of the use, relevance, and application of social research in design, when undertaking postgraduate study, design students engage with social research methods with different motivations that when utilized in design projects. In this context design postgraduates, particularly PhD candidates, employ social research methods to study design as a social phenomenon rather than to support design activities. Frayling (1993) professes that 'where artists, craftspeople and designers are concerned, the word research – the r word – sometimes seems to describe an activity which is a long way away from their respective practices'. This position is in line with his 'research into art and design' axiom. Using research methods to research into art and design requires a different mindset to that when researching for art and design. This paper does not aim to explore research through art and design, or what is often termed practice-as-research (Hockey & Allen-Collinson, 2005), as practice-as-research within design has been discussed in detail by a number of scholars (see Durling, 2000 & 2002; Durling & Niedderer, 2007; and Rust, 2003 for exploration of practice-as-research). This paper considers how designers undertake postgraduate level research, often through PhDs, into design.

When John Chris Jones was asked are there obstructions to getting a PhD in design, he responded by identifying:

'Inability to use words accurately and failure to write what you actually think (in place of the abstract academic jargon, or pseudo science, that you think the examiner wants to read) are perhaps the main obstructions.' (Jones, 1998:6)

Jones' position highlights the perceived need for design postgraduates to develop an ability to use academic language that is not part of their undergraduate grounding. The need to expand horizons and develop new research competencies is evident but as Durling (2002) notes 'the term research means quite different things to different people'.

Within design discourse, Cross (1991) asserts that 'the reasons for research are to provide reliable evidence

disseminated widely, that is reusable in some form by others'. Durling (2002) contends that research has goals quite different to those of practice.

'Research asks questions, selects appropriate methods, tests the questions, analyses the results, and disseminated the conclusions unambiguously... ..Research and practice co-exist as different categories of creative endeavor, and should not be confused as being identical categories.' (Durling, 2002:81)

Definitions of research in design abound (see Archer, 1981; Frayling, 1993; Cross, 2007; Krippendorff, 2005; Langrish, 2000, for example). This study uses the notion of types of research in design to frame the difference between design research in practice and research into design.

With a relatively recent history, the role of the PhD in design research is defined by Jones (1998) as:

'A measure of ability to integrate imagination-and-reason, technology-and-art, and to make noticeable improvements to the quality of industrial life and its products. To successfully integrate art and science.' (Jones, 1998:5).

Durling (2002) adds that:

'A PhD study is primarily a training in research, though this is often overlooked. Through the study of methodology, and practice in the choice and implementation of suitable research methods, the candidate comes to understand the methodological context and is able to demonstrate the application of suitable methods.' (Durling, 2002:82)

The need for a thorough understanding of research methods is highlighted by Durling yet research training for PhD candidates is treated very differently by each institution (Hockey & Allen-Collinson, 2005). Rust (2003) states that 'The expectation that doctoral education should involve a significant proportion of formal curriculum, implicit in the idea of a PhD "Program", does not sit comfortably with the UK's historical attitude to the research degree as a much more individual activity'. Additionally, as there is little tradition of doctoral study in design approaches from other relevant domains may provide an opportunity to learn from other experiences (Durling, 2000). 'There is a very wide range of methods available and appropriate to design research drawn from other fields of enquiry and from design itself' (Durling, 2000).

A series of semi-structured interviews with design postgraduates (the majority PhD candidates) revealed a limited awareness and understanding of social research methods prior to commencing their postgraduate studies. The majority of candidates had undertaken a master's degree before commencing a PhD and within this context had experience of interviews, focus groups, surveys, and case studies. One interviewee stated that

'the type of holistic thinking that designers undertake requires evidence from social science approaches, as well as creative and imaginative ability. As such I would suggest that it is crucial for design researchers to acquire social research skills related to design' (PhD candidate 1).

Another interviewee noted that

'social research methods are well-organized and useful in design research, but sometimes there needs to be some

designerly ways of developing social research methods' (PhD candidate 3).

The difference between design research and design practice was highlighted by one interviewee.

'Doing a research project is quite different to a design project. The results of a design project could stem from an idea without undertaking and formal research, but a research project needs to be undertaken analytically and synthetically' (PhD candidate 2).

In general interviewees identified the value of developing and understanding of academic research methods but saw that their training and experience as designers could contribute to this endeavor.

'As a designer I consider how I can develop better ways of working or consider what might be. In doing this I tend to consider how I apply my experience in practice to the research I undertake and develop a practical research methodology' (PhD candidate 4).

We can see that the nature of research is dependent upon the context in which it engages and as such is perceived differently by stakeholders. There is a clear distinction between undertaking research within the design process and undertaking research into design. In the latter, the authors experience indicates that postgraduate design students often feel they should develop their academic credentials and engage with established research methods, usually from outside the design domain. This position aligns with Krippendorff (1995) and Poggenpohl (2009). In doing so, students develop an understanding of a range of research methods. This is particularly the case in PhD level research - although design postgraduates find this journey both challenging and arduous. PhD candidates are aware of the value of developing an awareness of 'academic' research methods yet want to build upon prior training and experience. This paper will now outline approaches that can assist in this endeavor.

IV. ANALOGY AND REFERENCE TO DESIGNERLY APPROACHES: TOOLS AND METHODS

The author has been involved in design education for over 10 years, much of this at postgraduate level, and has supervised doctoral candidates in design through to successful completion. He is currently supervising three doctoral candidates in design related enquiry. During this time a number of key issues have emerged in the supervision of postgraduate design students and the development of research understanding. These include:

- Creative skills are a key strength that by far the majority of students already bring to their studies. These creative skills can be harnessed to support research activities throughout postgraduate studies providing appropriate support and guidance are in place.
- Design postgraduates often feel that writing is not a strength as they don't have a demonstrable track record of undertaking academic writing. Most undergraduate curricula include written components but this is a minority of the curriculum (often less than 10% of the total curriculum).

- Social research methods provide rigor to the research approaches design students have already developed. Once the theoretical base of these research methods has been communicated, design students embrace these methods and value the contribution within their learning.

The key to developing an understanding of social research methods is in the way that they are communicated to design students. Approaches need to recognize prior experience and engage students in a ‘designerly’ way. The use of analogy to design processes and visualization are two practical ways in which the principles of social research methods can be communicated to design postgraduates.

A. Analogy to design processes

Designers are exposed to various approaches to design processes both during their training and professional career. Linear, cyclic, or iterative approaches to design processes are embedded in much of design education, particularly while novice designers are developing (Lawson, 2005; Lawson & Dorst, 2009). The author has used this understanding to introduce notions of social research methods to design postgraduates by utilizing an analogy approach. Models of design processes are used as a way of communicating underlying conceptual approaches in social research. The use of analogy (and in some instances metaphor) assists in initial understanding and conceptualization of social research methods.

A concise example of this approach is the literature review. Although not only a social research method (as literature reviews are employed in all areas of research) it serves the purpose in this paper of providing a stark example of the analogy approach. A cyclical design process model bears many similarities to a literature review model thus:

analogy that assists in the development of understanding of research methods, the underlying assumptions are in line with each other. The link between the design process and literature review process is emphasized in research methods training with postgraduate design students.

Another example of analogy between design processes and social research is grounded theory. Grounded theory is an inductive form of qualitative research (Glaser & Strauss, 1967) where data collection and analysis are conducted together. Grounded theory emphasizes generation of theory from data in the process of conducting research. Design

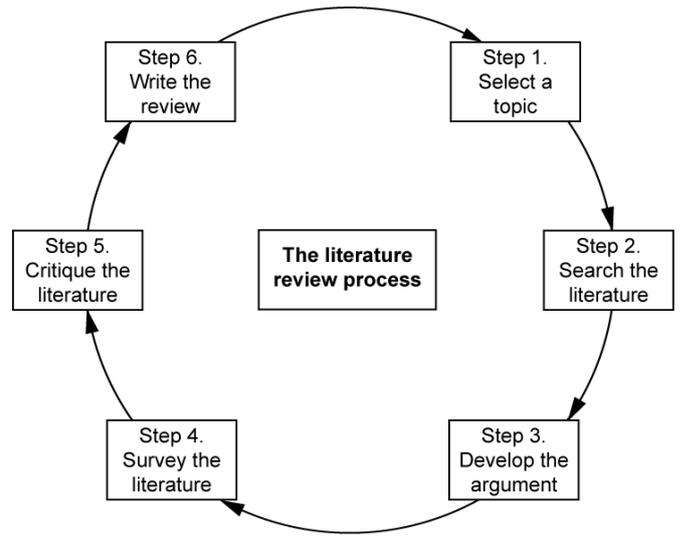


Fig. 2. Literature Review Process Model (Machi & McEvoy, 2009).

processes use ideation as a way of developing strategic direction within the development process – often providing direction for a project after it has commenced (Cross, 2007). A grounded theory approach is particularly useful in new, applied areas where there is a lack of theory and concepts to describe and explain what is going on (Robson, 2003). This aligns with underpinning concepts of contemporary design and its link to wicked problems (Buchanan, 1992; Richardson, 2010) where the challenge is that neither the problem nor the solution is known.

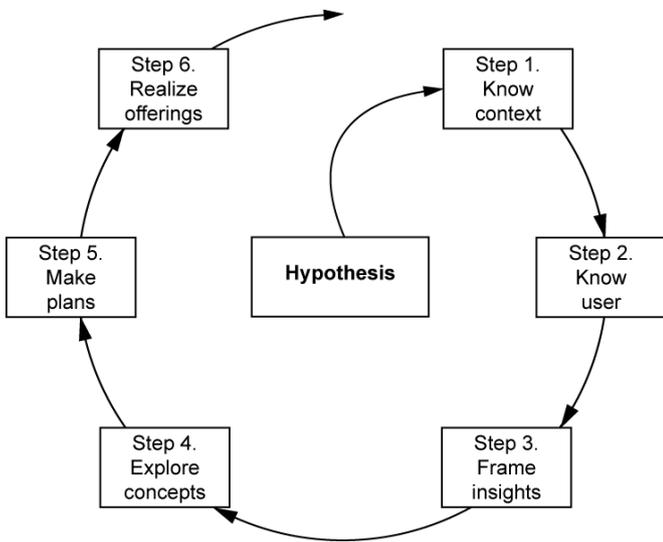


Fig. 1. Cyclical Design Process (after Kumar, 2004).

Kumar (2004) emphasizes the iterative and interconnected nature of the design process which is in line with Machi and McEvoy’s literature review process, which they see as ‘developmental with each of the steps leading to the next’ (Machi & McEvoy, 2009). It is not only the use of visual

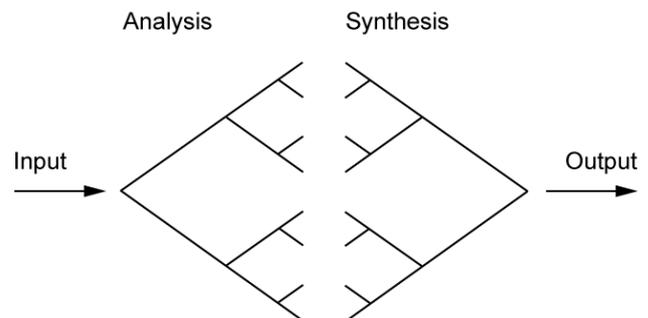


Fig. 3. Input, Analysis, Synthesis, Output Design Process (Alexander, 1964).

Alexander (1964) described analysis as a process of breaking a problem into pieces - ‘decomposing’ it. Synthesis

follows as re-ordering the pieces based on dependencies, solving each sub-piece, and finally knitting all the pieces back together - 'recombining' the pieces. By utilizing Alexander's divergent/convergent design process model, there is an opportunity to conceptualize grounded theory as a process that begins by opening up (through data collection) and the generation of theory throughout the research process.

B. Visualization

'Designers are notoriously visually aware and sensitive people... ...Designers think by manipulating graphical information' (Lawson & Dorst, 2009). Design cognition couldn't take place without external forms of representation. This can be in the form of drawings, use of images, etc but always relies upon the innate visual acumen that designers possess (Lawson, 2005). This visual thinking can be harnessed to develop use and application of social research methods amongst design postgraduates. Below is a relational diagram developed as part of the analysis of semi-structured interviews conducted as part of a pilot study within a PhD. Use of designerly approaches such as visualization can become a powerful tool within the development of academic research skills.

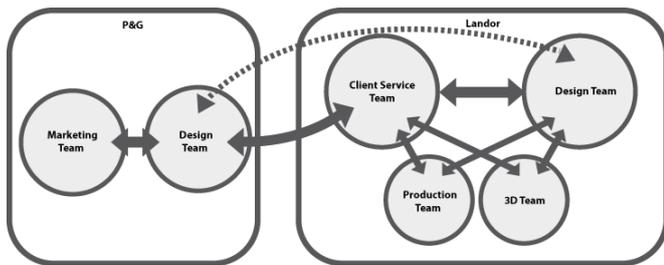


Fig. 4. Typical use of visualization within interview data analysis as part of a PhD: representing interaction between stakeholders

Use of visualization can assist in many social research contexts such as interviews (drawing out key concepts), thematic analysis (communication of identified themes), ethnography (breaking down behavior into separate factors), etc. As designers are visually sensitive, the use of visualization in social research can assist in the development of confidence within the researcher as well as helping to communicate research activities. The synthesis of visualization and social research presents many possibilities for postgraduate design students yet is a relatively untapped area of activity.

V. DISCUSSION AND CONCLUDING REMARKS

This paper presents an approach that can assist in the understanding of social research methods to design postgraduates. Although only a small number of examples are presented within this paper, the author has developed a wider range of specific examples of framing social research methods for design postgraduates. The approach outlined by this research is based upon a number of key principles:

- Build upon skills that designers already have: Do not try to suppress creative approaches that are second nature to

designers. Use designerly language that is known and not foreign to designers.

- Use of visualization approaches and communication by analogy, to design processes for example, can provide design postgraduates with a route into social research methods. Such approaches enable the development of confidence so that candidates can develop 'academic' research credentials. Coaching and mentoring through this learning process is vital.
- Reinforcing the fact that as postgraduates, designers need to develop new knowledge, skills and understanding through the process. It is not about 'just doing what you know' and as such this process will be challenging. Where designers can identify analogy to existing competencies, the process can be more efficient or effective.

The experiences conveyed within this paper are still a work in progress and continue to develop. Feedback from students has assisted in both the refinement of existing approaches and the identification of new and novel ways forward.

Research into design presents challenges for postgraduate design candidates. As noted, undergraduate curricula rarely deal with formal research methods; rather the focus is upon undertaking research for design. At postgraduate level there is the need to develop new skills that are often foreign in nature. The approaches outlined within this paper aims to assist in the endeavor.

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